Amendments to the Claims:

1. (Cancelled)

2. (Currently Amended) An isolated nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of:

a) a nucleotide sequence set forth in SEQ ID NO:1;

~~b) a nucleotide sequence that is an antisense sequence for the nucleotide sequence set forth in SEQ ID NO:1, wherein said antisense sequence hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C;~~

~~c)~~b) a nucleotide sequence having at least ~~80%~~ 95% sequence identity to the sequence set forth in SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having invertase inhibitor activity; and

~~d)~~c) a nucleotide sequence that ~~hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 or a complement thereof under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C, or a complement thereof; and~~ is a complement of a) or b).

~~e) a fragment of at least 50 contiguous nucleotides of the nucleotide sequence set forth in SEQ ID NO:1.~~

3. (Currently Amended) The nucleic acid molecule of claim 2, wherein said sequence encodes an amino acid selected from the group consisting of:

a) the amino acid sequence set forth in SEQ ID NO: 2[[.]]; and

b) an amino sequence having 95% sequence identity to the sequence set forth in SEQ ID NO:2.

4. (Previously Presented) A chimeric gene comprising a plant-functional promoter operably linked to the nucleotide sequence of claim 2.

5. (Previously Presented) The chimeric gene of claim 4, wherein the nucleotide sequence encodes the amino acid sequence set forth in SEQ ID NO:2.

6. (Previously Presented) The chimeric gene of claim 4, wherein said nucleotide sequence is the sequence set forth in SEQ ID NO:1.

7. (Currently Amended) The chimeric gene of claim 4, wherein said nucleotide sequence is ~~the~~ an antisense sequence of the sequence set forth in SEQ ID NO:1~~, wherein said antisense sequence hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C~~.

8. (Original) A vector comprising the chimeric gene of claim 4.

9. (Original) A plant cell transformed with the chimeric gene of claim 4.

10. (Original) A plant comprising the chimeric gene of claim 4.

11. (Currently Amended) A transformed plant having incorporated into its genome a DNA molecule, said molecule comprising a nucleotide sequence operably linked to a promoter capable of driving expression of a gene in a plant cell, wherein said nucleotide sequence is selected from the group consisting of:

a) a sequence encoding ~~an invertase inhibitor having~~ the amino acid sequence set forth in SEQ ID NO:2;

b) the nucleotide sequence set forth in SEQ ID NO:1;

~~c) a nucleotide sequence that is an antisense sequence for the nucleotide sequence set forth in SEQ ID NO:1, wherein said antisense sequence hybridizes to the nucleotide~~

~~sequence set forth in SEQ ID NO:1 under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C;~~

~~d)~~c) a nucleotide sequence having at least ~~80%~~ 95% sequence identity to the sequence set forth in SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having invertase inhibitor activity;

~~e)~~d) a nucleotide sequence that ~~hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 or a complement thereof under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C, or a complement thereof; and~~ encodes an amino acid sequence having 95% sequence identity to the sequence of SEQ ID NO:2; and

~~f)~~e) ~~a fragment of at least 50 contiguous nucleotides of the nucleotide sequence set forth in SEQ ID NO:1~~ nucleotide sequence that is a complement of any one of a) – d).

12. (Previously Presented) The transformed plant of claim 11, wherein the nucleotide sequence encodes the amino acid sequence set forth in SEQ ID NO:2.

13. (Previously Presented) The transformed plant of claim 11, wherein the nucleotide sequence is the nucleotide sequence set forth in SEQ ID NO:1.

14. (Cancelled)

15. (Cancelled)

16. (Original) The transformed plant of claim 11, wherein said plant is a dicot.

17. (Original) The transformed plant of claim 11, wherein said plant is a monocot.

18. (Original) The transformed plant of claim 17, wherein said plant is maize.

19. (Original) Transformed seed of the plant of any one of claims 16-18.

20. (Currently Amended) A method for modulating invertase activity in a plant, said method comprising transforming said plant with a DNA construct, said construct comprising a promoter that drives expression in a plant cell operably linked with a nucleotide sequence selected from the group consisting of:

a) a sequence encoding ~~an invertase inhibitor having~~ the amino acid sequence set forth in SEQ ID NO:2;

b) the nucleotide sequence set forth in SEQ ID NO:1;

~~c) a nucleotide sequence that is an antisense sequence for the nucleotide sequence set forth in SEQ ID NO:1, wherein said antisense sequence hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C;~~

~~d)~~c) a nucleotide sequence having at least ~~80%~~ 95% sequence identity to the sequence set forth in SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having invertase inhibitor activity;

~~e)~~d) a nucleotide sequence that ~~hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 or a complement thereof under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C, or a complement thereof; and~~ encodes an amino acid sequence having 95% sequence identity to the sequence of SEQ ID NO:2; and

~~f)~~e) ~~a fragment of at least 50 contiguous nucleotides of the nucleotide sequence set forth in SEQ ID NO:1~~ nucleotide sequence that is a complement of any one of a) – d).

21. (Currently Amended) A method for increasing seed yield in a plant, said method comprising transforming said plant with a DNA construct, said construct comprising a promoter

that drives expression in a plant cell operably linked with a nucleotide sequence selected from the group consisting of:

a) a sequence encoding ~~an invertase inhibitor having~~ the amino acid sequence set forth in SEQ ID NO:2;

b) the nucleotide sequence set forth in SEQ ID NO:1;

~~c) a nucleotide sequence that is an antisense sequence for the nucleotide sequence set forth in SEQ ID NO:1, wherein said antisense sequence hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C;~~

~~d)~~c) a nucleotide sequence having at least ~~80%~~ 95% sequence identity to the sequence set forth in SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having invertase inhibitor activity;

~~e)~~d) a nucleotide sequence that ~~hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 or a complement thereof under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C, or a complement thereof; and~~ encodes an amino acid sequence having 95% sequence identity to the sequence of SEQ ID NO:2; and

~~f)~~e) ~~a fragment of at least 50 contiguous nucleotides of the nucleotide sequence set forth in SEQ ID NO:1~~ nucleotide sequence that is a complement of any one of a) – d).

22. (Currently Amended) A transformed plant cell having incorporated into its genome a DNA molecule, said molecule comprising a promoter capable of driving expression of a gene in a plant cell operably linked to a nucleotide sequence selected from the group consisting of:

a) a sequence encoding ~~an invertase inhibitor having~~ the amino acid sequence set forth in SEQ ID NO:2;

b) the nucleotide sequence set forth in SEQ ID NO:1;

~~c) a nucleotide sequence that is an antisense sequence for the nucleotide sequence set forth in SEQ ID NO:1, wherein said antisense sequence hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C;~~

~~d)~~c) a nucleotide sequence having at least ~~80%~~ 95% sequence identity to the sequence set forth in SEQ ID NO:1, wherein said nucleotide sequence encodes a polypeptide having invertase inhibitor activity;

~~e)~~d) a nucleotide sequence that ~~hybridizes to the nucleotide sequence set forth in SEQ ID NO:1 or a complement thereof under high stringency hybridization conditions of 50% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 0.1X SSC at 60 to 65°C, or a complement thereof; and~~ encodes an amino acid sequence having 95% sequence identity to the sequence of SEQ ID NO:2; and

~~f)~~e) a ~~fragment of at least 50 contiguous nucleotides of the nucleotide sequence set forth in SEQ ID NO:1~~ nucleotide sequence that is a complement of any one of a) – d).

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)